



Certificate No:
TAS00003J5

TYPE APPROVAL CERTIFICATE

This is to certify:

That the lifting set for offshore containers and portable offshore units

with type designation(s)
Chain sling assembly - Painted

Issued to

WILLIAM HACKETT LIFTING PRODUCTS LIMITED
ALNWICK, United Kingdom

is found to comply with

DNV standard DNV-ST-E271 – 2.7-1 Offshore containers, January 2021 (Amended October 2021)
DNV standard DNV-ST-E273 – 2.7-3 Portable offshore units, April 2016 (Amended October 2021)
ISO 10855-2:2018 Offshore containers and associated liftings sets – Part 2: Design, manufacture and testing of lifting sets
IMO/MSC Circular 860
EN 818-4 Short link chain for lifting purposes – Safety – Part 4: Chain slings – Grade 8

Application :

1, 2, 3, and 4 leg lifting sets, with forerunner where fitted, for lifting of:
- offshore containers, with maximum gross mass 0 to 25000 kg,
- portable offshore units

Issued at **Aberdeen** on **2022-09-21**

This Certificate is valid until **2026-06-30** .

DNV local unit: **Newcastle**

for **DNV**

Approval Engineer: **Elisabeth Legg**

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Brendan Ward
Senior Engineer

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: TA 281

Revision: 2021-10

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Page 1 of 5

Manufactured by

DNV Id No.: 10698797

Responsibility

William Hackett Lifting Products Limited takes responsibility that both design and production at all places of manufacture are in compliance with the Rules, Standards and/or Regulations listed on page 1 of this type approval certificate.

Product description

This approval covers chain lifting sets for units certified in accordance with DNV-ST-E271 or DNV-ST-E273.

The chain liftings sets will be assembled from William Hackett Lifting Products Limited type approved products as listed in Appendix 1 of this type approval certificate.

DNV has accepted some components with internal dimensions smaller than those specified in EN 1677-4 Table 2. These are marked with * in Appendix 1.

Application/Limitation

All production testing shall be carried out in accordance with EN 818-4 and the manufacturer's internal procedure. Testing shall be agreed with local DNV office and be in accordance with DNV-ST-E271 section 8 and appendix F.

William Hackett Lifting Products Limited shall issue product certificates, in accordance with DNV-ST-E271 section 8.5 and DNV-ST-E273 section 7.5, using the certificate form WH115 issue 1. These certificates shall only be used for lifting sets certified in accordance with this type approval certificate.

The Working Load Limit (WLL) to be referenced in certificates and marked on lifting sets shall be the maximum Working Load limit (WLL) of the lifting set, as per the definition in DNV-ST-E271, at the given sling leg angle.

For lifting sets manufactured in accordance with DNV-ST-E271

Lifting sets shall be assembled in accordance with the strength requirements described in DNV-ST-E271 section 8. The angle of the sling legs from vertical should be taken into account when choosing sling legs. This angle should normally be 45°, but smaller angles may be used.

The required Working Load Limit (WLL) for a given container rating should be determined in accordance with DNV-ST-E271 Table 8-1 and the manufacturer's internal procedure. In no case should an offshore container lifting set WLL be less than 7.0 tonnes.

Special lifting sets, assembled in accordance with the principles described in DNV-ST-E271 section 8 and appendix E, are also covered by this type approval. If unsymmetrical slings are to be assembled, the local DNV office shall be contacted to review each case, unless otherwise agreed in advance.

Note: The sling leg is not necessarily the weakest part of the lifting set. Master link assemblies selected for lifting sets with legs at 45° may not be suitable for lifting sets with a smaller angle.

For lifting sets manufactured in accordance with DNV-ST-E273

Prior to selection of the lifting set, the minimum required working load limit (WLL) shall be calculated in accordance with the strength requirements in DNV-ST-E273 section 7.3. The resultant sling force (RSF) is provided in the DNV design verification report (DVR) for the portable offshore unit. The DVR should be made available for the lifting set manufacturer.



Job Id: **262.1-007532-10**
Certificate No: **TAS00003J5**

Type Approval documentation

Tests carried out

Prototype testing shall be carried out in accordance with DNV-ST-E271 and EN 818-4.

Marking of product

Components shall be marked in accordance with EN 818-4 chapter 7, DNV-ST-E271 section 8 or DNV-ST-E273 section 7, as appropriate.

Periodical assessment

In order to maintain the validity of the type approval certificate, periodical assessments should be carried out by a DNV surveyor every 12 months.

END OF CERTIFICATE

Appendix 1

Product description and details:

The values of the working load limit (WLL) specified below are nominal for each component and the correct selection shall be made in accordance with DNV-ST-E271 section 8.

Master links:

Product Code	Description	Diameter [mm]	Working Load Limit (WLL) [t]	Manufacturing Proof Force (MPF) [kN]	Minimum Breaking Force (BF) [kN]
330.160+ **	HA16 ML 8 OS+	16	4.1	101	201
330.220+	HA22 ML 8 OS+	22	7.0	172	343
330.22S *	HA22 MLS 8 OS+	22	11	270	540
330.250+	HA25 ML 8 OS+	25.5	9.3	229	456
330.280+	HA28 ML 8 OS+	28	14.5	356	711
330.28S *	HA28 MLS 8 OS+	28	19.5	479	956
330.320+	HA32 ML 8 OS+	32	19.0	466	932
330.360+	HA36 ML 8 OS+	36	26.0	638	1275
330.400+	HA40 ML 8 OS+	40	30.5	749	1496
330.450+	HA45 ML 8 OS+	45	40.0	981	1962
330.460+	HA45 MLL 8 OS+	45	24.7	606	1211
330.500+	HA50 ML 8 OS+	50	51.0	1251	2502
330.600+	HA65 ML 8 OS+	65	75.0	1840	3679
330.700+	HA75 ML 8 OS+	75	100.0	2453	4905

*) Non-standard sizes, see comment under Product description.

**) This size is only to be used for portable offshore units.

Intermediate links:

Type	Description	Diameter [mm]	Working Load Limit (WLL) [t]	Manufacturing Proof Force (MPF) [kN]	Minimum Breaking Force (BF) [kN]
360.145IML.P	HA-145IL 8 OS	14.5	3.7	91	146
360.160IML.P	HA-16IL 8 OS	16	5.3	130	208
360.200IML.P	HA-20IL 8 OS	20	8.6	212	339
360.220IML.P	HA-22IL 8 OS	22	11.0	269	432
360.260IML.P	HA-26IL 8 OS	26	15.7	384	615
360.320IML.P	HA-32IL 8 OS	32	24.8	610	976
360.360IML.P	HA-36IL 8 OS	36	31.8	780	1249

Chain:

Product Code	Diameter [mm]	Working Load Limit (WLL) [t]	Manufacturing Proof Force (MPF) [kN]	Minimum Breaking Force (BF) [kN]
AS1.060.5.OS **	6.0	1.2	28.3	47
AS1.070.5.OS **	7.0	1.6	39	62.8
AS1.080.5.OS **	8.0	2.0	50.3	80.5
AS1.100.5.OS ***	10.0	3.2	79	126
AS1.130.5.OS ***	13.0	5.3	133	213
AS1.160.5.OS	16.0	8.0	201	322
AS1.200.5.OS	20.0	12.5	314	503
AS1.220.5.OS	22.0	15.0	380	608
AS1.260.5.OS	26.0	21.2	531	850
AS1.320.5.OS	32.0	31.5	804	1290
AS1.360.5.OS	36.	41.5	1018	1630
AS1.400.5.OS	40.0	51.2	1257	2011
AS1.450.5.OS	45.0	64.8	1590	2545

**) This size is only to be used for portable offshore units.

***) This size can only be used for offshore container sling legs, not forerunner.